



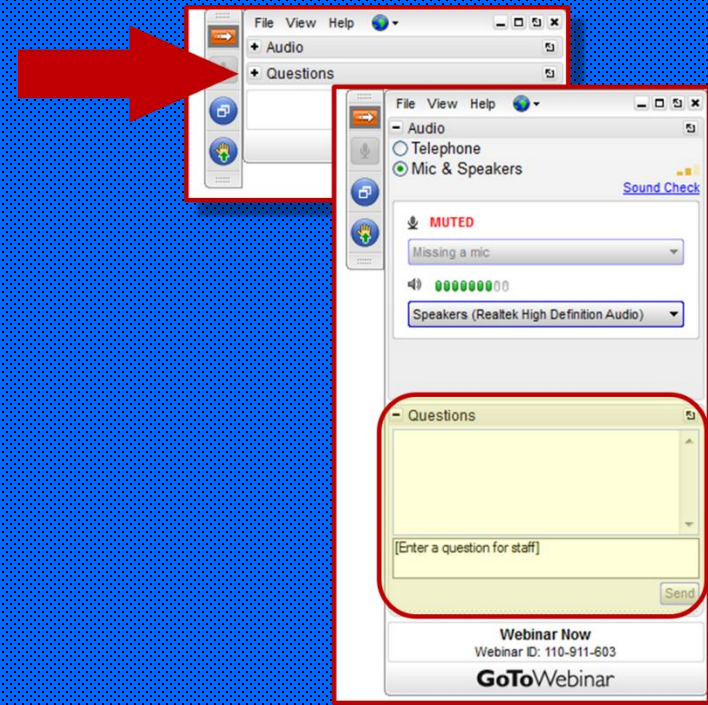
Florida Department of Transportation
State Safety Office
Crash Data Academy

Vulnerable Road Users
Part 1



How to ask a question:

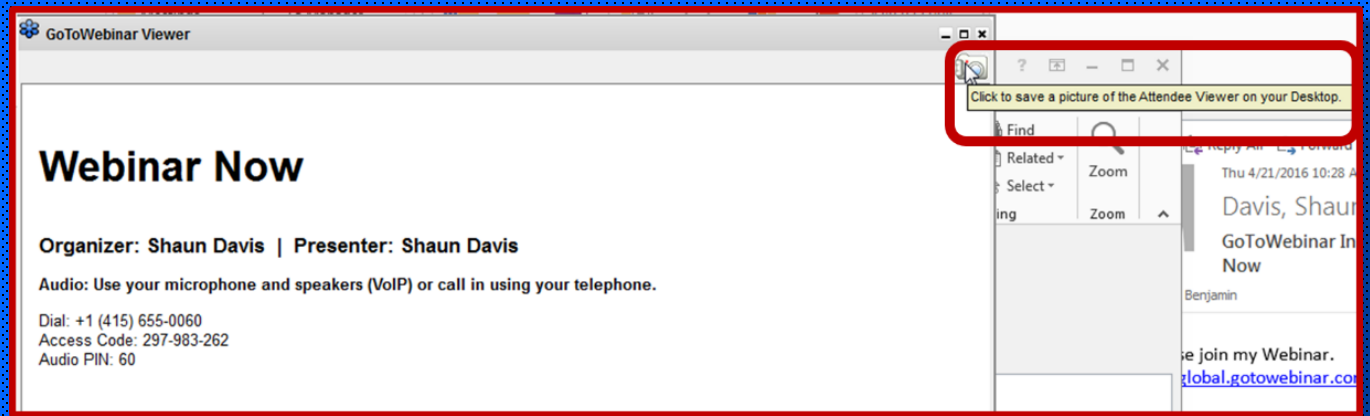
- Control panel on right side of screen
- Use question pane
 - Type questions and comments
 - Click send





How to capture the webinar window:

- Webinar viewer
 - Top, right corner
- Camera icon



Florida Department of Transportation
State Safety Office

CRASH DATA ACADEMY:
VULNERABLE ROAD USERS – PART I



Presented By:
Trenda McPherson
State Bicycle/Pedestrian Safety Program Manager



Introductions



Presentation by:

Mrs. Trenda McPherson
Florida Department of Transportation
State Bicycle Pedestrian Safety Program Manager
www.alerttodayflorida.com

Who is considered a vulnerable road user?

Florida Statute 316.027(1)(b) “Vulnerable road user” means:

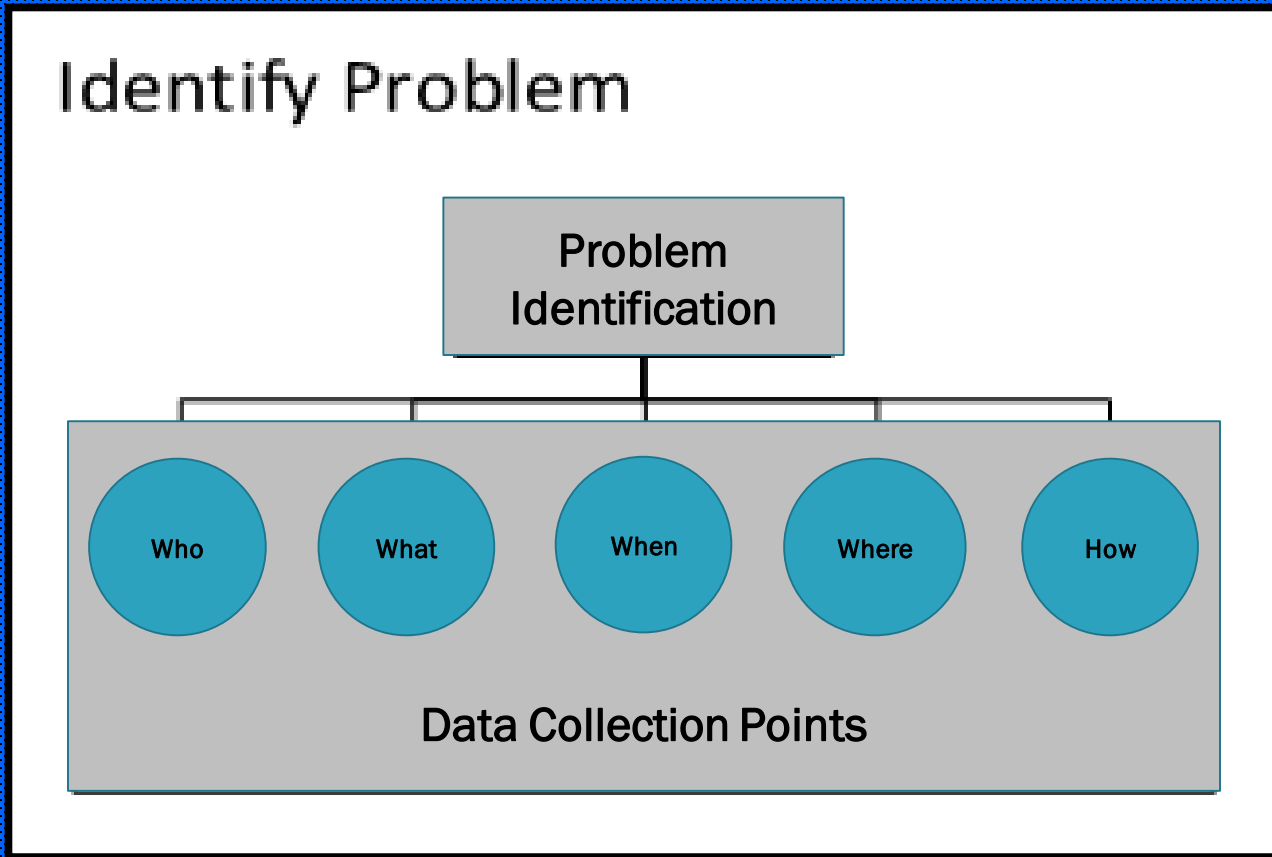
1. A pedestrian, including a person actually engaged in work upon a highway, or in work upon utility facilities along a highway, or engaged in the provision of emergency services within the right-of-way;
2. A person operating a bicycle, motorcycle, scooter, or moped lawfully on the roadway;
3. A person riding an animal; or
4. A person lawfully operating on a public right-of-way, crosswalk, or shoulder of the roadway:
 - a. A farm tractor or similar vehicle designed primarily for farm use;
 - b. A skateboard, roller skates, or in-line skates;
 - c. A horse-drawn carriage;
 - d. An electric personal assistive mobility device; or
 - e. A wheelchair.

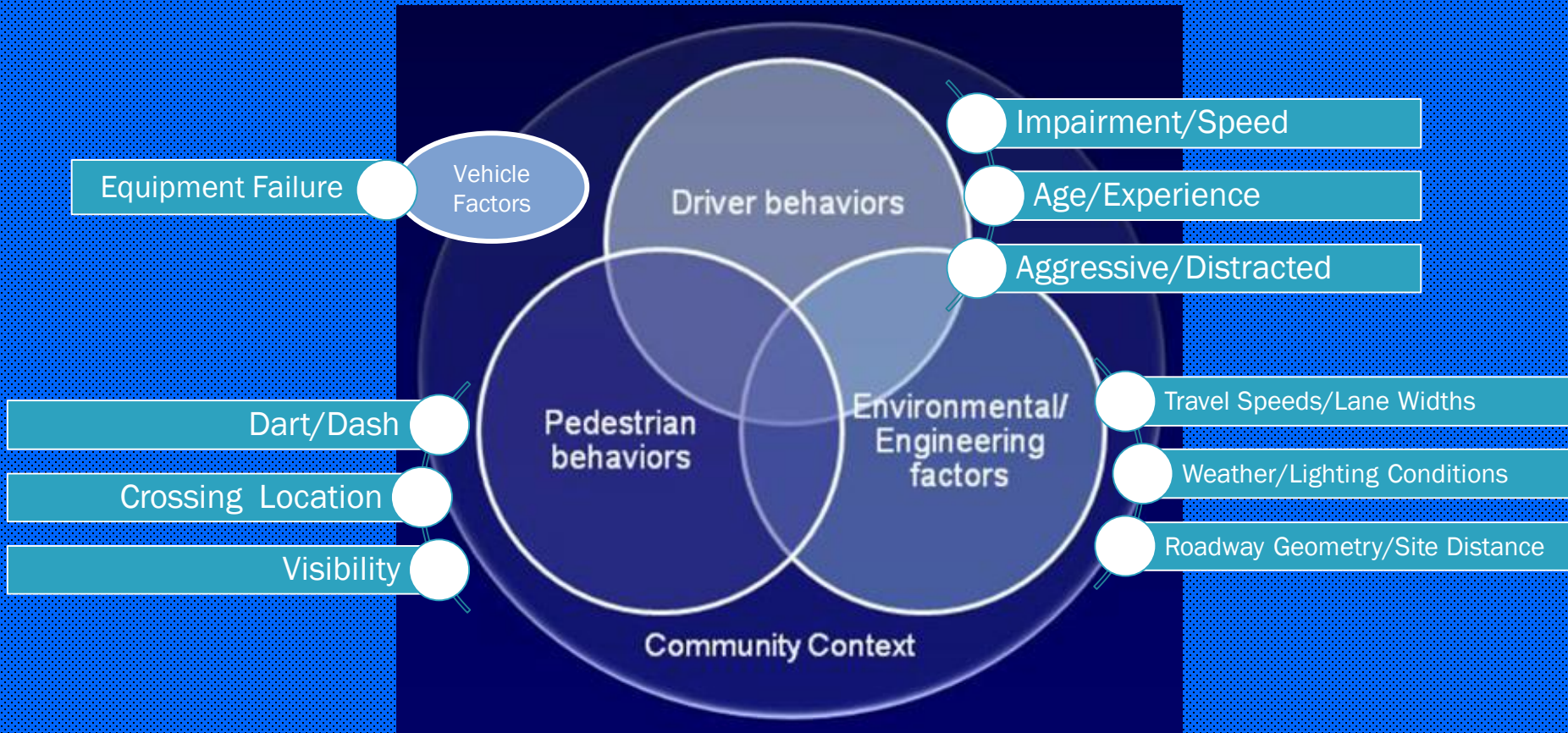


- ❖ Problem Identification Process
- ❖ Qualities of Good Data
- ❖ Data Types
 - ❖ Florida Crash Report Information
- ❖ Data Sources
- ❖ Data Challenges
- ❖ Data Analysis



Problem Identification is the process of analyzing crash data and other pertinent information to isolate specific facts about traffic crashes that can be used to select the appropriate countermeasures and crash reduction strategies.





From Baselines to Outcomes: Quality Data is the KEY to Success



Data Types

Roadway or Environmental

What roadway
other “no”
to the crash

What data set
information?

FLORIDA TRAFFIC CRASH REPORT
LONG FORM 3 SHORT FORM 3 UPDATE 3
MAR 10: DEPARTMENT OF HIGHWAY SAFETY & MOTOR VEHICLES
TRAFFIC CRASH RECORDS, NEIL KIRKMAN BUILDING
TALLAHASSEE, FL 32399-0537

CRASH DATE: 7 TIME OF CRASH: 12 TOTAL # OF VEHICLE SECTIONS: 4
COUNTY OF CRASH: 10 COURT OF CRASH: 3 TOTAL # OF PERSON SECTIONS: 6
CRASH IDENTIFIERS: 10 COMPLETE: 10 CHECK # WHEN: 14 TIME REPORTED: 15
ROADWAY INFORMATION (CHECK ONE): 22 ROAD INTERSECTION WITH STREET ROAD: 20 TYPE OF SHOULDER: 33 TIME OF DAY: 10
ROADWAY SURFACE CONDITION: 27 ROADWAY SURFACE CONDITION: 33 TIME OF DAY: 10
ROADWAY SURFACE CONDITION: 27 ROADWAY SURFACE CONDITION: 33 TIME OF DAY: 10

CRASH INFORMATION (CHECK IF PICTURES TAKEN): 34
Light Condition: 36
Weather Condition: 35
Roadway Surface Condition: 27
Type of Shoulder: 33
School Bus Road: 38

First Harmful Event: 40
First Harmful Event within Interchange: 42
First Harmful Event Relation to Junction: 43
Work Zone Related: 46
Crash in Work Zone: 47
Type of Work Zone: 48

WITNESSES: 51, 52, 53, 54
NON-VEHICLE PROPERTY DAMAGE: 59
VEHICLE # PERSON # PROPERTY DAMAGE - OTHER THAN VEHICLE: 61
VEHICLE # PERSON # PROPERTY DAMAGE - OTHER THAN VEHICLE: 62

Page ___ of ___





Data Types



VEHICLE # 72		Check if Commercial 73		REPORTING AGENCY CASE NUMBER 2		VEHICLE CASE REPORT NUMBER 1	
1 Vehicle - 1 Driver 2 Vehicle - 1 Driver 3 Vehicle - 2 Drivers 4 Vehicle - 3 Drivers 5 Vehicle - 4 Drivers		VEHICLE LICENSE NUMBER 74 75		STATE 76 77		CLASSIFICATION 78 79	
PLATE NO. 80 YEAR 81 MAKE 82 MODEL 83 YEAR 84 COLOR 85		INSURANCE COMPANY (BANKER) 86 INSURANCE POLICY NUMBER 88		INVOICED OR REPAIRED BY 90		VEHICLE REGISTERED BY 91	
NUMBER OF VEHICLES OWNED (check if bus) 87		CITY AND ADDRESS 89		CITY AND STATE 92 93		ZIP CODE 94	
LICENSE NUMBER 102 103		LICENSE CLASSIFICATION 104 105		CLASSIFICATION 106 107		YEAR 108 MAX OF 109 LICENSE 110 CLASS 111	
LICENSE NUMBER 112 113		LICENSE CLASSIFICATION 114 115		CLASSIFICATION 116 117		YEAR 118 MAX OF 119 LICENSE 120 CLASS 121	
VEHICLE TYPE 122 123		DRIVE TYPE 124		DRIVE TYPE 125		DRIVE TYPE 126	
AREA OF INITIAL IMPACT 127 128		AREA OF INITIAL IMPACT 129 130		MOST DAMAGED AREA 131 132		MOST DAMAGED AREA 133 134	
VEHICLE BODY TYPE 140		TRAFFICWAY 141		COMMERCIAL MOTOR VEHICLE CONFIGURATION 142		VEHICLE BODY TYPE 143	
VEHICLE BODY TYPE 144		TRAFFICWAY 145		COMMERCIAL MOTOR VEHICLE CONFIGURATION 146		VEHICLE BODY TYPE 147	
VEHICLE BODY TYPE 148		TRAFFICWAY 149		COMMERCIAL MOTOR VEHICLE CONFIGURATION 150		VEHICLE BODY TYPE 151	
VEHICLE BODY TYPE 152		TRAFFICWAY 153		COMMERCIAL MOTOR VEHICLE CONFIGURATION 154		VEHICLE BODY TYPE 155	
VEHICLE BODY TYPE 156		TRAFFICWAY 157		COMMERCIAL MOTOR VEHICLE CONFIGURATION 158		VEHICLE BODY TYPE 159	
VIOLATIONS		VIOLATIONS		VIOLATIONS		VIOLATIONS	

What about vehicle data? Where do you find information about a possible equipment failure?

With so much data to capture, how do you determine the crash type and contributing factors?

The sequence of events?

The most harmful event resulting from the crash?

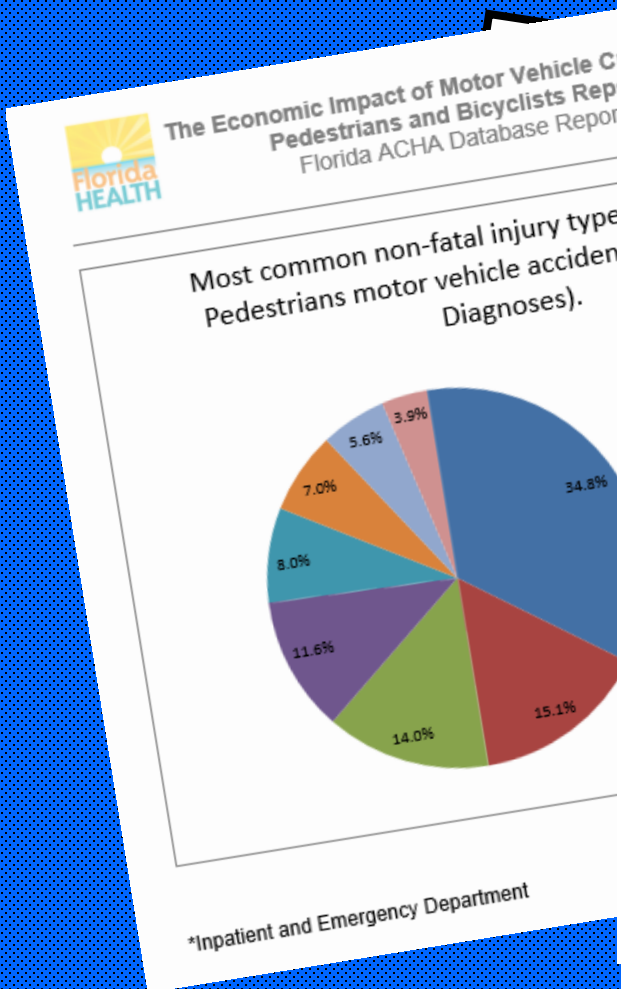


Data Types



Crash Specific Data:
What other data to "tells the s

crash?



NARRATIVE		REPORTING AGENCY CASE NUMBER	HEMVY CRASH REPORT NUMBER
306		2	1
ADDITIONAL PASSENGERS			
VEHICLE #	PASS #	NAME	DATE OF BIRTH
167	165	106,169,170,171	178
			IN
			SEX
			LOC: S
			P
			O
			EJECT
			HU
			EP
			ABD
			RS
CURRENT ADDRESS (Number and Street)		CITY & STATE	
ZIP CODE			
SOURCE OF TRANSPORT TO MEDICAL FACILITY		EMERGENCY NAME OF ID	
<input type="checkbox"/> Not Reported <input type="checkbox"/> Law Enforcement <input type="checkbox"/> Other (Specify in Narrative) <input type="checkbox"/> Unknown		EMERGENCY NUMBER	
MEDICAL FACILITY TRANSFERRED TO			
VEHICLE #	PASS #	NAME	DATE OF BIRTH
			IN
			SEX
			LOC: S
			P
			O
			EJECT
			HU
			EP
			ABD
			RS
CURRENT ADDRESS (Number and Street)		CITY & STATE	
ZIP CODE			
SOURCE OF TRANSPORT TO MEDICAL FACILITY		EMERGENCY NAME OF ID	
<input type="checkbox"/> Not Reported <input type="checkbox"/> Law Enforcement <input type="checkbox"/> Other (Specify in Narrative) <input type="checkbox"/> Unknown		EMERGENCY NUMBER	
MEDICAL FACILITY TRANSFERRED TO			
ADDITIONAL VIOLATIONS			
PERSON #	NAME OF VIOLATOR	FL STATUTE NUMBER	CHARGE
PERSON #	NAME OF VIOLATOR	FL STATUTE NUMBER	CHARGE
REPORTING OFFICER			
ID/BADGE NUMBER	RANK & NAME	DEPARTMENT	HRP
307	306 309, 310, 311, 312	313	314
			SO
			PD
			OTHER

opened

el 5 cars has

s was killed

in Williston,

nt occurred

uthorities.

ities

wines

al

h

s

le

RS



Data Types



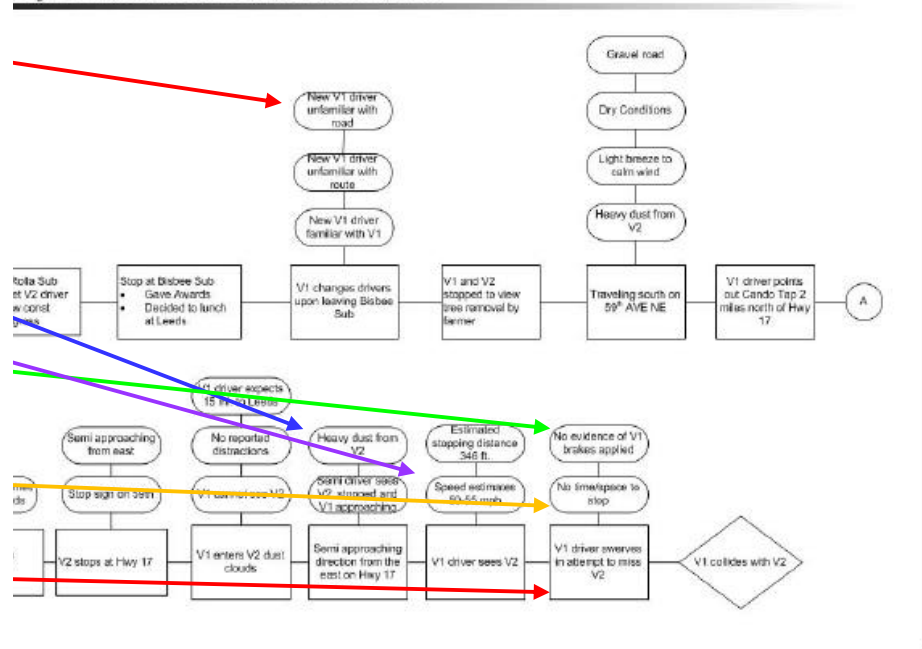
behavior or other human factors that

Crash Investigation Report Example

PERSON # 165		REPORTING AGENCY CASE NUMBER 2	HSMV CRASH REPORT NUMBER 1
1 Driver 2 Non-Motorist 3 Passenger 166	VEHICLE # 167 NAME 168, 169, 170, 171	PHONE NUMBER 172	Check # 173 Recommended Driver Release
CURRENT ADDRESS (Number and Street) 174		CITY & STATE 175 176	ZIP CODE 177
DATE OF BIRTH 178	SEX 179 1 Male 2 Female 3 Unknown	DRIVER LICENSE NUMBER 180	STATE 181 EXPIRES 182 INSURANCE (INS) 183 1 None 2 Possible 3 No Insurance 4 Insurance 5 Non-Traffic (e.g. day)
DL Type 184 1 A 2 B 3 C 4 Chauffeur 5 Operator 6 Oper - Rest 7 None	Required Endorsements 185 1 No 2 No Req. Endorsement	Drivers Actions at Time of Crash 186 1 No Contributing Action 2 Contributed: MV in Care Bus or Light Rail Motorist 3 Contributed: Other Roadway 4 Improper Backing 5 Improper Turn 6 Followed Too Close 7 Ran Red Light 8 Drove Too Fast for Conditions 9 Ran Stop Sign 10 Improper Pass 11 Exceeded Posted Speed 12 Wrong Side of Roadway 13 Failed to Keep in Proper Lane 14 Failed to Yield 15 Failed to Give Way 16 Failed to Give Right of Way 17 Failed to Give Right of Way 18 Failed to Give Right of Way 19 Failed to Give Right of Way 20 Failed to Give Right of Way 21 Failed to Give Right of Way 22 Failed to Give Right of Way 23 Failed to Give Right of Way 24 Failed to Give Right of Way 25 Failed to Give Right of Way 26 Failed to Give Right of Way 27 Failed to Give Right of Way 28 Failed to Give Right of Way 29 Failed to Give Right of Way 30 Failed to Give Right of Way 31 Failed to Give Right of Way 32 Failed to Give Right of Way 33 Failed to Give Right of Way 34 Failed to Give Right of Way 35 Failed to Give Right of Way 36 Failed to Give Right of Way 37 Failed to Give Right of Way 38 Failed to Give Right of Way 39 Failed to Give Right of Way 40 Failed to Give Right of Way 41 Failed to Give Right of Way 42 Failed to Give Right of Way 43 Failed to Give Right of Way 44 Failed to Give Right of Way 45 Failed to Give Right of Way 46 Failed to Give Right of Way 47 Failed to Give Right of Way 48 Failed to Give Right of Way 49 Failed to Give Right of Way 50 Failed to Give Right of Way 51 Failed to Give Right of Way 52 Failed to Give Right of Way 53 Failed to Give Right of Way 54 Failed to Give Right of Way 55 Failed to Give Right of Way 56 Failed to Give Right of Way 57 Failed to Give Right of Way 58 Failed to Give Right of Way 59 Failed to Give Right of Way 60 Failed to Give Right of Way 61 Failed to Give Right of Way 62 Failed to Give Right of Way 63 Failed to Give Right of Way 64 Failed to Give Right of Way 65 Failed to Give Right of Way 66 Failed to Give Right of Way 67 Failed to Give Right of Way 68 Failed to Give Right of Way 69 Failed to Give Right of Way 70 Failed to Give Right of Way 71 Failed to Give Right of Way 72 Failed to Give Right of Way 73 Failed to Give Right of Way 74 Failed to Give Right of Way 75 Failed to Give Right of Way 76 Failed to Give Right of Way 77 Failed to Give Right of Way 78 Failed to Give Right of Way 79 Failed to Give Right of Way 80 Failed to Give Right of Way 81 Failed to Give Right of Way 82 Failed to Give Right of Way 83 Failed to Give Right of Way 84 Failed to Give Right of Way 85 Failed to Give Right of Way 86 Failed to Give Right of Way 87 Failed to Give Right of Way 88 Failed to Give Right of Way 89 Failed to Give Right of Way 90 Failed to Give Right of Way 91 Failed to Give Right of Way 92 Failed to Give Right of Way 93 Failed to Give Right of Way 94 Failed to Give Right of Way 95 Failed to Give Right of Way 96 Failed to Give Right of Way 97 Failed to Give Right of Way 98 Failed to Give Right of Way 99 Failed to Give Right of Way 100 Failed to Give Right of Way	Condition At Time of Crash 187 1 Aggravately Injured 2 Aggravately Injured 3 Injured 4 Slight Injury 5 Slight Injury 6 Slight Injury 7 Physically Impaired 8 Emotional Distress, Injury, Distress, etc. 9 Under the Influence of Medication/Drugs/Alcohol 10 Other, Explain in Narrative 11 Unknown
Driver Distracted By 188 1 No Distraction 2 Electronic Communication Device (cell phone, etc.) 3 Other Electronic Device (navigation device, DVD player, etc.) 4 Texting 5 Inattentive 6 Unknown	Driver Vision Obstructions 189 1 Vision Not Obscured 2 Instrument Weather 3 Paint/Obstruction on Road 4 Tires/Obstruction	DRIVER OR PASSENGER Motor Vehicle Seating Position: LOCATION: SEAT ROW OTHER Seat 190 Row 191 Other 192 1 Front 2 Middle 3 Third 4 Fourth 5 In Plain View 6 In Plain View 7 Other Row 8 Unknown 9 Unknown	Restraint Systems (RS) 195 1 Not Applicable (non-motorist) 2 None Used - Motor Vehicle Occupant 3 No Seat Belt Used 4 Shoulder Air Only Used 5 Shoulder Air Only Used 6 Restraint Used - Type Unknown 7 Child Restraint System - Forward Facing 8 Child Restraint System - Rear Facing 9 Booster Seat 10 Child Restraint Type Unknown 11 Other, Explain in Narrative
Non-Motorist Description 196 1 Pedestrian 2 Other Pedestrian (wheelchair, person in building, stroller, person in cart, etc.) 3 Bicyclist 4 Other Cyclist 5 Occupant of Motor Vehicle Not in Transport (aircraft, etc.) 6 Occupant of Non-Motor Vehicle 7 Unknown Type of Non-Motorist	Non-Motorist Location At Time of Crash 199 1 Intersection - Marked Crosswalk 2 Intersection - Unmarked Crosswalk 3 Intersection - Other 4 Marked - Marked Crosswalk 5 Thru Lane - Other Location 6 Bicycle Lane 7 Unknown	Non-Motorist Actions/Circumstances 201 1 No Improper Action 2 Failure to Yield Right-of-Way 3 Failure to Yield Right-of-Way 4 Failure to Yield Right-of-Way 5 Failure to Yield Right-of-Way 6 Failure to Yield Right-of-Way 7 Failure to Yield Right-of-Way 8 Failure to Yield Right-of-Way 9 Failure to Yield Right-of-Way 10 Failure to Yield Right-of-Way 11 Failure to Yield Right-of-Way 12 Failure to Yield Right-of-Way 13 Failure to Yield Right-of-Way 14 Failure to Yield Right-of-Way 15 Failure to Yield Right-of-Way 16 Failure to Yield Right-of-Way 17 Failure to Yield Right-of-Way 18 Failure to Yield Right-of-Way 19 Failure to Yield Right-of-Way 20 Failure to Yield Right-of-Way 21 Failure to Yield Right-of-Way 22 Failure to Yield Right-of-Way 23 Failure to Yield Right-of-Way 24 Failure to Yield Right-of-Way 25 Failure to Yield Right-of-Way 26 Failure to Yield Right-of-Way 27 Failure to Yield Right-of-Way 28 Failure to Yield Right-of-Way 29 Failure to Yield Right-of-Way 30 Failure to Yield Right-of-Way 31 Failure to Yield Right-of-Way 32 Failure to Yield Right-of-Way 33 Failure to Yield Right-of-Way 34 Failure to Yield Right-of-Way 35 Failure to Yield Right-of-Way 36 Failure to Yield Right-of-Way 37 Failure to Yield Right-of-Way 38 Failure to Yield Right-of-Way 39 Failure to Yield Right-of-Way 40 Failure to Yield Right-of-Way 41 Failure to Yield Right-of-Way 42 Failure to Yield Right-of-Way 43 Failure to Yield Right-of-Way 44 Failure to Yield Right-of-Way 45 Failure to Yield Right-of-Way 46 Failure to Yield Right-of-Way 47 Failure to Yield Right-of-Way 48 Failure to Yield Right-of-Way 49 Failure to Yield Right-of-Way 50 Failure to Yield Right-of-Way 51 Failure to Yield Right-of-Way 52 Failure to Yield Right-of-Way 53 Failure to Yield Right-of-Way 54 Failure to Yield Right-of-Way 55 Failure to Yield Right-of-Way 56 Failure to Yield Right-of-Way 57 Failure to Yield Right-of-Way 58 Failure to Yield Right-of-Way 59 Failure to Yield Right-of-Way 60 Failure to Yield Right-of-Way 61 Failure to Yield Right-of-Way 62 Failure to Yield Right-of-Way 63 Failure to Yield Right-of-Way 64 Failure to Yield Right-of-Way 65 Failure to Yield Right-of-Way 66 Failure to Yield Right-of-Way 67 Failure to Yield Right-of-Way 68 Failure to Yield Right-of-Way 69 Failure to Yield Right-of-Way 70 Failure to Yield Right-of-Way 71 Failure to Yield Right-of-Way 72 Failure to Yield Right-of-Way 73 Failure to Yield Right-of-Way 74 Failure to Yield Right-of-Way 75 Failure to Yield Right-of-Way 76 Failure to Yield Right-of-Way 77 Failure to Yield Right-of-Way 78 Failure to Yield Right-of-Way 79 Failure to Yield Right-of-Way 80 Failure to Yield Right-of-Way 81 Failure to Yield Right-of-Way 82 Failure to Yield Right-of-Way 83 Failure to Yield Right-of-Way 84 Failure to Yield Right-of-Way 85 Failure to Yield Right-of-Way 86 Failure to Yield Right-of-Way 87 Failure to Yield Right-of-Way 88 Failure to Yield Right-of-Way 89 Failure to Yield Right-of-Way 90 Failure to Yield Right-of-Way 91 Failure to Yield Right-of-Way 92 Failure to Yield Right-of-Way 93 Failure to Yield Right-of-Way 94 Failure to Yield Right-of-Way 95 Failure to Yield Right-of-Way 96 Failure to Yield Right-of-Way 97 Failure to Yield Right-of-Way 98 Failure to Yield Right-of-Way 99 Failure to Yield Right-of-Way 100 Failure to Yield Right-of-Way	Action Prior to Crash 200 1 Crossing Roadway 2 Waiting to Cross Roadway 3 Waiting/Cycling Along Roadway with Traffic (in or adjacent to travel lane) 4 Working/Cycling Along Roadway Against Traffic (in or adjacent to travel lane) 5 Unknown
SAFETY EQUIPMENT 201 1 None 2 Helmet 3 Protective Pads Used (Shoulder, Knee, Elbow, etc.) 4 Protective Clothing (Jacket, Backpack, etc.) 5 Unknown	ALCOHOL TESTS 202 1 SUSPECTED 2 ALCOHOL TESTED 3 TEST NOT GIVEN 4 NO 5 YES 6 UNKNOWN 7 TESTED 8 TESTED 9 TESTED 10 TESTED 11 TESTED 12 TESTED 13 TESTED 14 TESTED 15 TESTED 16 TESTED 17 TESTED 18 TESTED 19 TESTED 20 TESTED 21 TESTED 22 TESTED 23 TESTED 24 TESTED 25 TESTED 26 TESTED 27 TESTED 28 TESTED 29 TESTED 30 TESTED 31 TESTED 32 TESTED 33 TESTED 34 TESTED 35 TESTED 36 TESTED 37 TESTED 38 TESTED 39 TESTED 40 TESTED 41 TESTED 42 TESTED 43 TESTED 44 TESTED 45 TESTED 46 TESTED 47 TESTED 48 TESTED 49 TESTED 50 TESTED 51 TESTED 52 TESTED 53 TESTED 54 TESTED 55 TESTED 56 TESTED 57 TESTED 58 TESTED 59 TESTED 60 TESTED 61 TESTED 62 TESTED 63 TESTED 64 TESTED 65 TESTED 66 TESTED 67 TESTED 68 TESTED 69 TESTED 70 TESTED 71 TESTED 72 TESTED 73 TESTED 74 TESTED 75 TESTED 76 TESTED 77 TESTED 78 TESTED 79 TESTED 80 TESTED 81 TESTED 82 TESTED 83 TESTED 84 TESTED 85 TESTED 86 TESTED 87 TESTED 88 TESTED 89 TESTED 90 TESTED 91 TESTED 92 TESTED 93 TESTED 94 TESTED 95 TESTED 96 TESTED 97 TESTED 98 TESTED 99 TESTED 100 TESTED	DRUG TESTS 203 1 SUSPECTED 2 DRUG TESTED 3 TEST NOT GIVEN 4 NO 5 YES 6 UNKNOWN 7 TESTED 8 TESTED 9 TESTED 10 TESTED 11 TESTED 12 TESTED 13 TESTED 14 TESTED 15 TESTED 16 TESTED 17 TESTED 18 TESTED 19 TESTED 20 TESTED 21 TESTED 22 TESTED 23 TESTED 24 TESTED 25 TESTED 26 TESTED 27 TESTED 28 TESTED 29 TESTED 30 TESTED 31 TESTED 32 TESTED 33 TESTED 34 TESTED 35 TESTED 36 TESTED 37 TESTED 38 TESTED 39 TESTED 40 TESTED 41 TESTED 42 TESTED 43 TESTED 44 TESTED 45 TESTED 46 TESTED 47 TESTED 48 TESTED 49 TESTED 50 TESTED 51 TESTED 52 TESTED 53 TESTED 54 TESTED 55 TESTED 56 TESTED 57 TESTED 58 TESTED 59 TESTED 60 TESTED 61 TESTED 62 TESTED 63 TESTED 64 TESTED 65 TESTED 66 TESTED 67 TESTED 68 TESTED 69 TESTED 70 TESTED 71 TESTED 72 TESTED 73 TESTED 74 TESTED 75 TESTED 76 TESTED 77 TESTED 78 TESTED 79 TESTED 80 TESTED 81 TESTED 82 TESTED 83 TESTED 84 TESTED 85 TESTED 86 TESTED 87 TESTED 88 TESTED 89 TESTED 90 TESTED 91 TESTED 92 TESTED 93 TESTED 94 TESTED 95 TESTED 96 TESTED 97 TESTED 98 TESTED 99 TESTED 100 TESTED	
ADDITIONAL PASSENGERS			
VEHICLE # 167	PASS # 165	NAME 168, 169, 170, 171	DATE OF BIRTH 178
VEHICLE # 167	PASS # 165	NAME 168, 169, 170, 171	DATE OF BIRTH 178
VEHICLE # 167	PASS # 165	NAME 168, 169, 170, 171	DATE OF BIRTH 178

Causal Factors Charting

Type A Accident Report

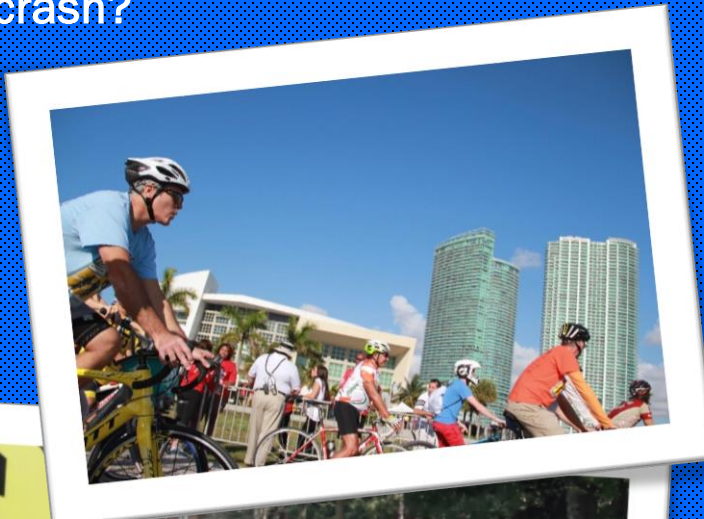




Data Types



Where do you find information about what the pedestrian or bicyclist might have been doing at the time of the crash?



PERSON # 165		REPORTING AGENCY CASE NUMBER 2		HMV CRASH REPORT NUMBER 1		
1 Driver 2 Non-Motorist 3 Passenger 166		VEHICLE # 167	NAME 108, 169, 170, 171	PHONE NUMBER 172	Check # 173 Recommended Driver Release	
CURRENT ADDRESS (Number & Street) 174			CITY & STATE 175 176		ZIP CODE 177	
DATE OF BIRTH 178	SEX: 179 1 Male 2 Female 3 Unknown	DRIVER LICENSE NUMBER 180	STATE 181	EXPIRES 182	INJURY SEVERITY BIN# 183 4 None/Minor 5 Possible 6 No-traffic fatality	
DRIVER						
DL Type 184	Required Endorsements 185	Drivers Actions at Time of Crash 186		Condition At Time of Crash 187		
1 A 2 B 3 C 4 Operator 5 Other - Rest 7 None	1 Ins 2 No 3 No Req. Endorsement	1st 1 No Contributing Action 2 Operator in Case of or Negligent Driver 3 Failed to Yield Right-of-Way 4 Improper Backing 5 Improper Turn 6 No-Shoulder/Too Close to Road Edge 7 No-Right-of-Way 8 Driver Too Fast for Conditions 9 Ran Stop Sign 10 Improper Passing 11 Exceeded Posted Speed 12 Wrong Side of Road 13 No-Use of Proper Lane		1st 24 Ran Off Roadway 25 On person other than Driver 26 Sign 27 On person other than Driver 28 On person other than Driver 29 On person other than Driver 30 Not Wearing or Wearing Due to Wind, Slippery Surface, MV, Object, Non-Motorist in Roadway, etc. 31 Operator in Error 32 Operator of Age/Incapable of Contributing Action 33 Other		
Driver Distracted By 188		Driver Vision Obstructions 189		Restraining Systems (RS) 195		
1 No-Use of Vehicle 2 Electronic Communication Device (cell phone, etc.) 3 Other Electronic Device (navigation device, DVD player) 4 Other Inside the Vehicle (explain in narrative) 5 External Distraction (object in narrative) 6 Talking 7 Unknown 8 None		1 Vision Not Obstructed 2 Incomplete/Other 3 Partial/Stopped Vehicle 4 Time/Color/Shape 5 Load on Vehicle 6 Building/Sign Object 7 Sign/Billboards 8 Fog 9 Snow 10 Rain 11 Other (explain in narrative)		1 Not Applicable (non-motorist) 2 None Used - Motor Vehicle Occupant 3 Shoulder and Lap Belt Used 4 Seat Belt Used - Type Unknown 5 Lap Belt Only Used 6 Restraint System - Forward Facing 7 Child Restraint System - Forward Facing 8 Booster Seat 9 Not in Restraint 10 Child Restraint Type Unknown		
DRIVER OR PASSENGER						
Motor Vehicle Seating Position: 190		Ejection (EJECT) (ABO) 196		Air Bag Deployed 197		
Seat 190	Row 191	Other 192	1 Not Applied 2 In Front of Vehicle 3 In Rear of Vehicle 4 Not Applicable		1 Not Applicable 2 Not Deployed 3 Deployed - Front Seat 4 Deployed - Side	
1 Left 2 Middle 3 Right 7 Other	1 Front 2 Second 3 Other Enclosed Cargo Area 4 Unenclosed Cargo Area 5 In Row 6 In Row (non-seated unit)	LOCATION: 193 1 Not Applicable 2 Not Applicable 3 Not Applicable 4 Not Applicable	1 Not Applied 2 In Front of Vehicle 3 In Rear of Vehicle 4 Not Applicable		1 Not Applicable 2 Not Deployed 3 Deployed - Front Seat 4 Deployed - Side	
NON-MOTORIST						
Non-Motorist Description 198		Non-Motorist Location At Time of Crash 199		Action Prior to Crash 200		
1 Pedestrian 2 Other (pedestrian in wheelchair, person in building, stroller, pedestrian convenience, etc.) 3 Bicyclist 4 Other Cyclist 5 Occupant of Motor Vehicle - Not in Transport (jacked, etc.) 6 Occupant of Non-Motor Vehicle 7 Unknown Type of Non-Motorist		1 Intersection - Marked Crosswalk 2 Intersection - Unmarked Crosswalk 3 Intersection - Other 4 Median - Marked Crosswalk 5 Travel Lane - Other Location 6 Bicycle Lane 7 Shoulder/Roadside 8 None		1 Walking/Crossing Street in Roadway - Other (working, playing, etc.) 2 Adjusted to Roadway (e.g., 100 user, medical) 3 Going from Front (80-82) 4 Walking/Crossing A/Roadway 5 Working in Trafficway (and/or on time line) 6 None 7 Walking/Crossing A/Roadway against Traffic (and/or against time line) 8 None 9 Other (explain in narrative)		
Safety Equipment 201		Non-Motorist Actions/Circumstances 202		ALCOHOL/DRUGS/EMS 203		
1 No 2 Helmet 3 No-reflective Vest Used 4 Reflective Clothing (jacket, backpack, etc.) 5 Lighting 6 Not Applicable 7 Not Applicable 8 Not Applicable 9 Unknown		1 No Improper Action 2 On/Off 3 Return to Yield Right-of-Way 4 Return to City, Traffic, etc. 5 Speak, or Other 6 In Roadway Improperly Intending (working, playing) 7 In Roadway Vehicle (working on, pushing, etc.) 8 None 9 Other (explain in narrative)		SUSPECTED ALCOHOL USE: 1 No 2 Yes 3 Unknown 4 Not Tested 5 Tested and Negative 6 Tested and Positive 7 Tested and Unknown 8 Not in Narrative 9 Other		
ADDITIONAL PASSENGERS						
VEHICLE # PAGES NAME 167 165		CURRENT ADDRESS (Number & Street) 174		CITY & STATE 175 176		
SOURCE OF TRANSPORT TO MEDICAL FACILITY 1 Not Reported 2 EMS - Law Enforcement 3 Other (explain in narrative) - Unknown		MEDICAL FACILITY NAME OF ID 303		MEDICAL FACILITY TRANSFERRED TO 305		
VEHICLE # PAGES NAME 168 169, 170, 171		CURRENT ADDRESS (Number & Street) 174		CITY & STATE 175 176		
SOURCE OF TRANSPORT TO MEDICAL FACILITY 1 Not Reported 2 EMS - Law Enforcement 3 Other (explain in narrative) - Unknown		MEDICAL FACILITY NAME OF ID 304		MEDICAL FACILITY TRANSFERRED TO 305		
VEHICLE # PAGES NAME 169 170		CURRENT ADDRESS (Number & Street) 174		CITY & STATE 175 176		
SOURCE OF TRANSPORT TO MEDICAL FACILITY 1 Not Reported 2 EMS - Law Enforcement 3 Other (explain in narrative) - Unknown		MEDICAL FACILITY NAME OF ID 305		MEDICAL FACILITY TRANSFERRED TO 305		

Where do you find information about pedestrian and bicyclist “incidents” where there were no motor vehicles involved?

Local enforcement agencies compile and collect incident reports in house.



Clearwater Memorial Causeway Fatal/Severe Injury Bicycle & Pedestrian Crashes (2005-2013*)

Crash date	DHSMV Report #	CPD Incident Report #	Crash description & severity
1/15/2013	n/a	CW13-7088	Single vehicle bicycle - ran off sidewalk (severe injury)
1/15/2013	n/a	CW13-7091	Bicycle wobbling, struck pedestrian (severe injury)
7/28/2012	n/a	CW12-102288	Single vehicle bicycle - fell off bicycle (fatal)
5/1/2012	n/a	CW12-56886	Single vehicle bicycle - fell off bicycle (fatal)
7/4/2010	n/a	CW10-76632	Two people on one bicycle struck a pedestrian (fatal)
8/25/2005	71601755	CW05-21806	Single vehicle bicycle - ran off sidewalk (fatal)

Emergency Room and Trauma Center data will also reflect injuries that may not have been traffic crash related.



Data Types



Is information available about the economic impact of pedestrian and bicyclist injuries, injury types, and behavioral risk factors?

<http://www.floridahealth.gov/statistics-and-data/index.html>

<http://www.floridahealth.gov/statistics-and-data/ems-data-systems/index.html>

<http://www.floridahealth.gov/certificates/trauma-registry/index.html>

<http://www.floridahealth.gov/certificates/trauma-registry/index.html>


http://www.floridahealth.gov/certificates/trauma-registry/_documents/2016-ngtr-dd.pdf



An innovative strategy to collecting pedestrian and bicyclist specific data.

<https://www.strava.com>

Strava works with nearly every smartphone, GPS device and paired sensor, such as heart rate monitors and power meters. But only Premium unlocks the power of all that data for deep post-activity analysis, including exclusive features like Suffer Score and Race Analysis.



Strava GPS Cycling and Running App

Strava lets you track your running and riding with GPS, join Challenges, share photos from your activities, and follow friends.



Data Types

10:02 AM on Saturday, September 10, 2016

Morning Ride

STRAVA LABS
View Flybys >

12.5mi Distance	1:08:13 Moving Time	0ft Elevation
68W Estimated Avg Power	279kJ Energy Output	
	Avg	Max
Speed	11.0mi/h	13.9mi/h
Calories	311	
Elapsed Time	1:48:46	
Device: Strava Android App	Bike: —	

[Show Less](#)

TOP RESULTS

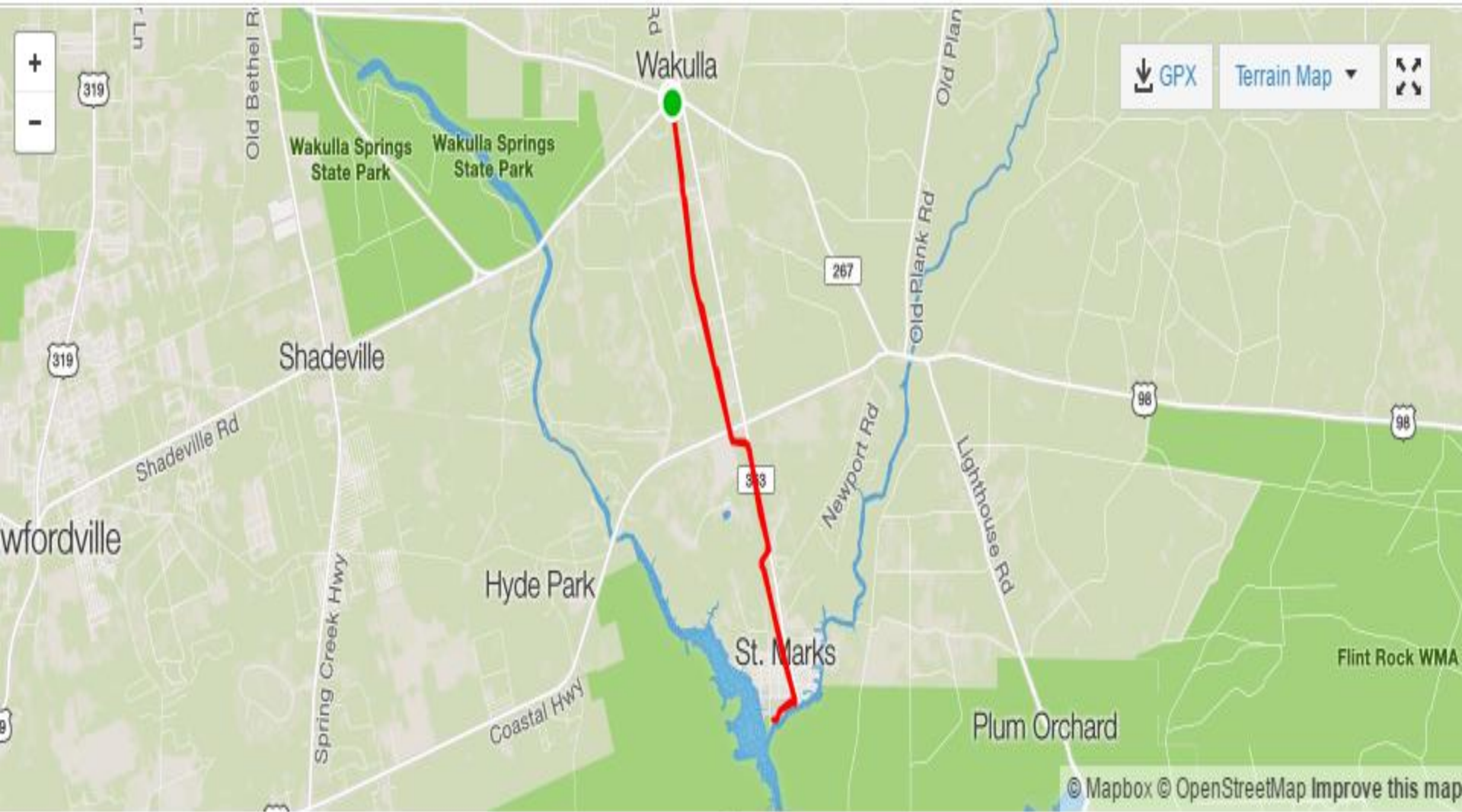
2nd fastest time on [Tallahassee-St. Marks Trail: Coastal highway to St. Marks](#) (13:20)

Segments [Learn more about segments](#)

	Name	Time	Speed	Power	VAM	HR
★	Tallahassee-St. Marks Trail: Bloxham Cutoff Rd - Coastal Hwy 2.8mi 6ft 0%	14:36	11.5mi/h	73W		—
★	Tallahassee-St. Marks Trail: Coastal highway to St. Marks 2.6mi 0ft 0%	13:20	11.8mi/h	77W		—

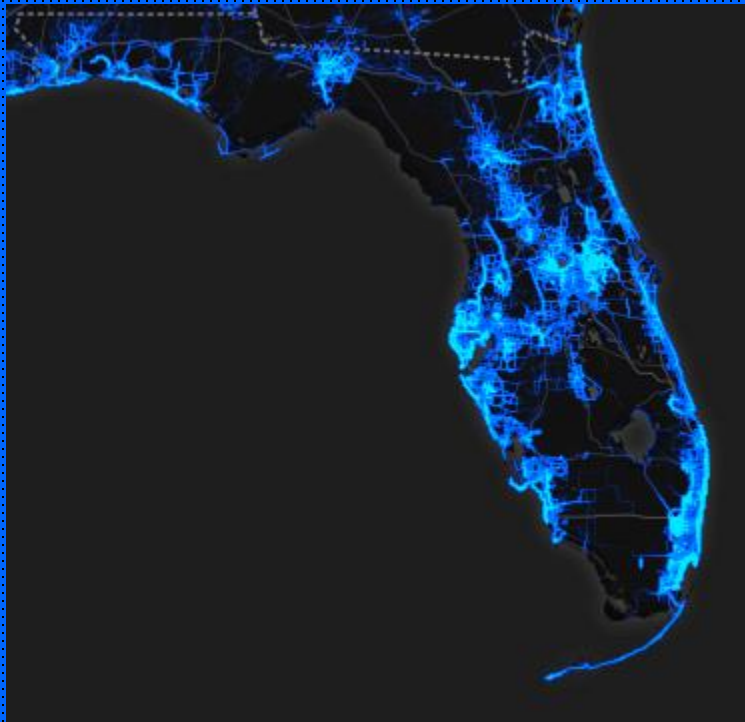


Data Types

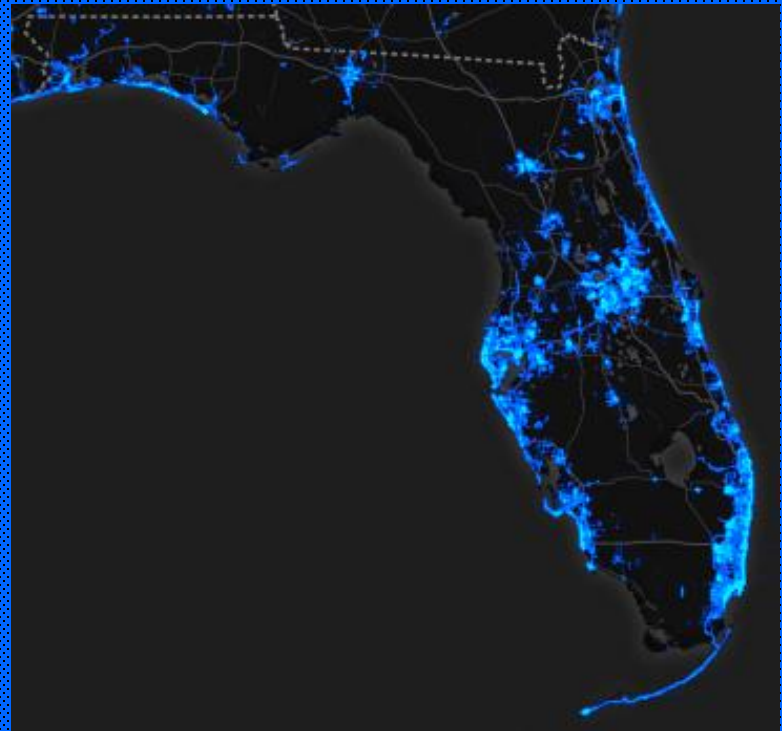


Strava Global Heat Map 2015

Bike



Run



STRAVA | METRO

Success Stories

Over 70 cities and organizations around the world are using Strava Metro to improve their bicycle and pedestrian infrastructure. Here are a few inspiring examples of groups partnering with Metro to answer a specific question or make a direct impact on transportation in their area.

SEATTLE

QUEENSLAND

Seattle Department of Transportation

In 2015, Seattle added Strava Metro data to its portfolio of traditional bicyclist and traffic data (surveys and bike counts). By combining these data sources, the city has been able to gain new insights on preferred bicyclist routes and characteristics of dangerous intersections.



Strava Data Sets



Streets

Minute-by-minute activity counts at your entire network



Origin / Destination

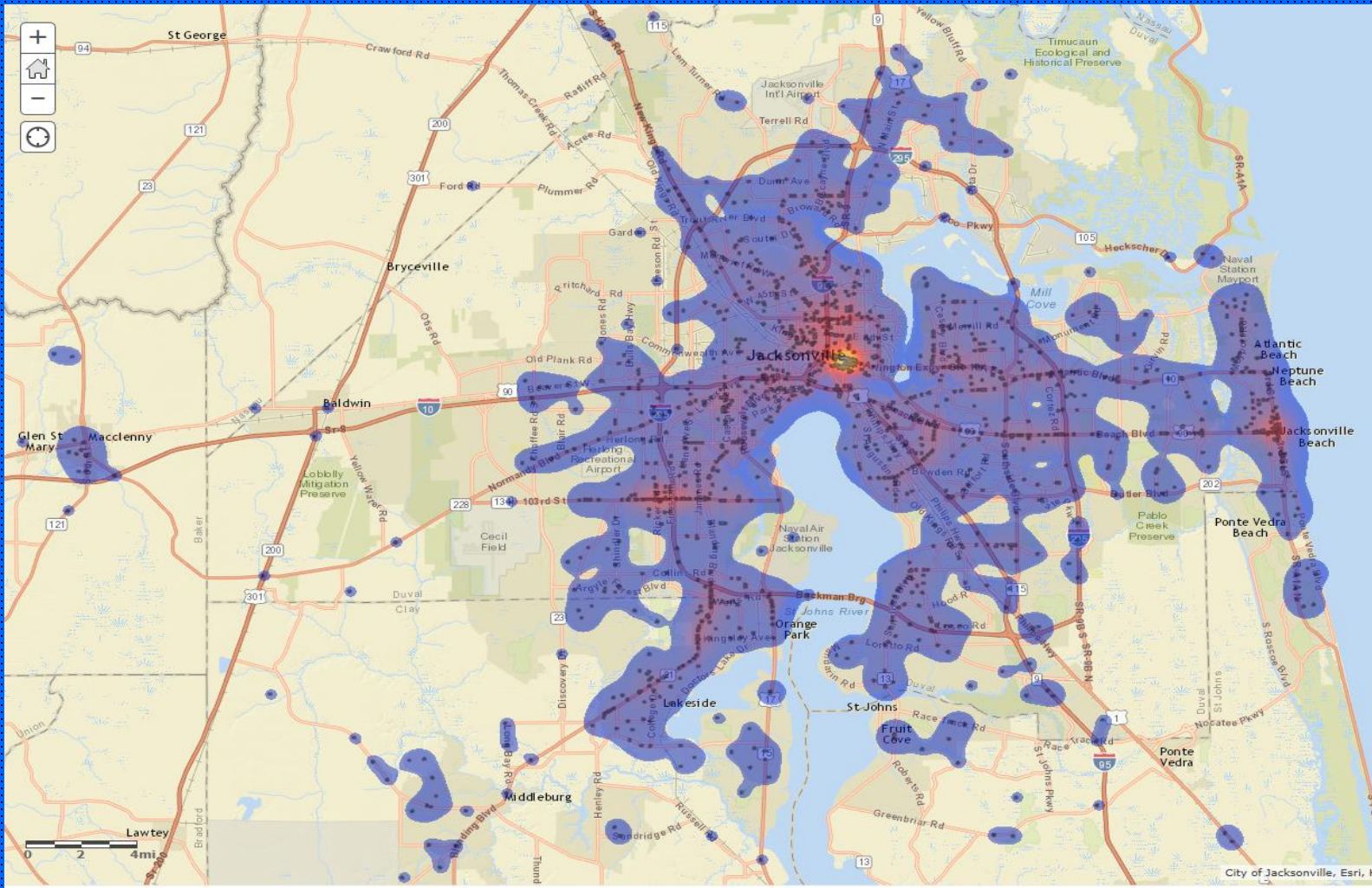
Understand activity starting and ending points, by region



Intersections

Activity counts and wait times at every intersection

What is “other pertinent data” and how is it relevant to Vulnerable Road Users?



Duval County Pedestrian
Crash Clusters 2009-2015

Federal Data Sources

- Fatality Analysis Reporting System (FARS)
- National Household Travel Survey
- National Survey of Pedestrian and Bicyclist Attitudes and Behaviors (NHTSA)
- Not-in-Traffic Surveillance (NHTSA)
- Census/Demographic Data

State Data Sources

- Crash Reports/GIS Maps
- Hospital/Emergency Department Data
- Vital Statistics
- Economic Impact Data
- Vehicle Miles Traveled/Driver Demographics

Local Data Sources

- Citation Reports
- Public Opinion or Observational Surveys
- Zoning Data
- Transit Data



Impediments to Data Collection

- Data Ownership
- Inability to link files
- Not Enough Data
- Too Much Data
- Challenges Collecting and Compiling Exposure Data

Impediments to Data Analysis

- Crash Report Contains Inaccurate or Insufficient Data
- Data Quality
- Lack of Demographic Data
- Lack of Uniform Crash Reporting Criteria
- Inconsistent Data Definitions

BIG DATA, BIG CHALLENGES

IF THERE'S ONE ASSET THE U.S. GOVERNMENT HAS IN ABUNDANCE, IT'S DATA.

But a fight for expertise is hindering both the public and private sectors when it comes to managing and mining information.



Data Analysis

Data analysis is the process of reviewing raw data to find the trends that indicate a problem.



Quantitative research is explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics).

Qualitative research seeks to answer questions about why and how people behave in the way that they do. It provides in-depth information about human behaviors resulting in traffic crashes.



References



Fatality Analysis Reporting Systems (FARS)

The FARS database provides data on highway fatalities resulting from all motor vehicle traffic crashes in the United States every year. All FARS data on fatal motor vehicle traffic crashes is gathered from the State's own source documents and is coded on standard FARS forms.

<http://www-fars.nhtsa.dot.gov/Main/index.aspx>

State Traffic Safety Information (STSI)

The State Highway Traffic Information website combines FARS data with geographic information system (GIS) data and Google Earth technology.

<http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/STSI/USA%20WEB%20REPORT.HTM>

National Household Travel Survey (NHTS)

The National Household Travel Survey (NHTS) is the source of national data on the travel behavior of the American public. The dataset allows analysis of daily travel by all modes and includes characteristics of the people traveling, their household, and their vehicles. For example, between 1969 and 2001, that data showed a dramatic decline in the percentage of students who walked or biked to school.

<http://nhts.ornl.gov/>

National Survey of Pedestrian and Bicyclist Attitudes and Behaviors

The National Survey of Pedestrian and Bicyclist Attitudes and Behaviors provides a detailed analysis of behaviors and attitudes on various topics related to walking and bicycling, including reported frequency of walking and bicycling during the summer months, trip purpose and characteristics, perceptions of safety, safety practices, facilities available, and community design. In 2012, the survey showed that one-third of those surveyed would like to see improvements in the way their local community is designed for walking.

<http://www.nhtsa.gov/nti/811841>



References



Not-in-Traffic Surveillance (NiTS)

The Not-in-Traffic Surveillance (NiTS) Study was published by NHTSA in January 2011. It provides counts and details regarding fatalities and injuries that occur in non-traffic crashes and in non-crash incidents. For example, the most common types of non-crash injuries seen in emergency departments were injuries sustained while entering or exiting a vehicle, injuries from closing doors, and injuries from overexertion, such as unloading cargo or pushing a disabled vehicle.

<http://www-nrd.nhtsa.dot.gov/Pubs/NCCF08.pdf>

Exposure data can provide data needed for a realistic analysis. Sometimes there may not be enough crash data available; however, you need to have enough data to produce a realistic analysis of the problem. You should do a minimum of a 5-year data trend to overcome challenges with pedestrian and bicycle data, localities, States and national data.

National Automotive Sampling System–General Estimate System (NASS-GES) is published annually.

Web-Based Injury Statistics Query and Reporting System (WISQARS) is an interactive database system that provides customized reports on injury-related data. It was created by the National Center for Injury Prevention and Control. Program managers can look at unintentional motor vehicle fatalities and injuries to pedestrian and bicyclists.

There are several national surveys conducted by NHTSA that provide useful data on attitudes and behaviors. Subjects of the surveys include drinking and driving, distracted and drowsy driving, and speeding and unsafe driving. These types of behaviors are not only a risk to other motorists but also to the safety of pedestrians and bicyclists.

Youth Risk Behavior Surveillance Survey (YRBSS) is a biennial school-based, health behavior survey that includes questions on seat belt use, bicycle helmet use, and riding with a driver who had been drinking.

http://www.cdc.gov/healthyyouth/yrbs/pdf/questionnaire/2015_xjh_questionnaire.pdf



References



Florida Traffic Safety Portal:

<https://fdotewp1.dot.state.fl.us/TrafficSafetyWebPortal/>

Roadway Characteristics Inventory

http://www.fdot.gov/planning/statistics/rci/RCIFC_Handbook.pdf

Strava

<https://www.strava.com>

Strava Global Heat Maps

<http://labs.strava.com/heatmap/#6/-94.60327/31.25977/blue/bike>

Strava Metro

<http://metro.strava.com>

Questions





Next FDOT Webinars

The tentative schedule as of 7/1/2016 is:

- Thursday, November 17th, 2016 - Commercial Vehicle Enforcement
- Thursday, December 15th, 2016 - Legal and Insurance Perspective on Crash Data
- Thursday, January 26th, 2017 - The Importance of Crash Data and Statistics
- Thursday, February 23rd, 2017 - Crash Typing

(dates and topics subject to change)

Please contact Benjamin Jacobs at Benjamin.Jacobs@dot.state.fl.us with any questions or comments.



Next FDOT Webinars

Register now!

<https://attendee.gotowebinar.com/register/8578031654679345411>

The webinars generally occur on the last Thursday of the month from 2:30 pm to 3:30 pm ET.

For more information, including links to past webinars, please visit our website at: <http://www.dot.state.fl.us/safety/11A-SafetyEngineering/crash%20data%20academy/academy.shtm>



Further questions?

Benjamin Jacobs

(850) 414-4007

benjamin.jacobs@dot.state.fl.us